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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/791,187	SMITH ET AL.	
	Examiner	Art Unit	
	Benjamin C. Lee	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-69 and 72-86* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *22-25,31-37,54-56,67,76,78,85 and 3122* is/are allowed.

6)☒ Claim(s) *1-21,26-30,38-53,57-62,64,72-75,77,79-84 and 86* is/are rejected.

7)☒ Claim(s) *63,65,66,68 and 69* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response To Amendment

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/31/07 has been entered.

Claim Status

1. Claims 1-69 and 72-86 are pending.

Claim Rejections - 35 USC § 112

2. Claims 44-49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 44, last indented paragraph, "tuning the antenna to at least one of the frequencies" should have read --tuning the antenna to respective first and second frequencies--, since the power source tunes the antenna to a first frequency, e.g. 915 Mhz and the impedance reduction conductor tunes the antenna to another, higher frequency, e.g. 2.4 Ghz, as also supported by applicant's specification on [0098]-[0050]. Claims 45-49 are correspondingly rejected due to claim dependency on rejected claim 44.

Claim Rejections - 35 USC § 103

3. Claims 1, 4-6, 8, 38, 40-43, 50-53, 62, 73-74, 79 and 81-82 are rejected under 35 U.S.C. 103(a) as being obvious over Marsh et al. (US 5726630 which incorporated by reference on col. 4, lines 40-42 of 07/816,893 (US pat. #5,537,105) by Marsh et al.) in view of Johnson et al. (US 6239765).

1) Claims 1 & 8: Marsh et al. discloses the claimed remote communication device (transponder 38) comprising: communication circuitry comprises RFID circuitry (Fig. 4) configured to at least one of receive communication signals and generate communication signals; and an antenna coupled with the communication circuitry and configured to communicate wireless signals corresponding to the communication signals including at least one of receiving wireless signals and outputting wireless signals (Fig. 2A), the antenna being configured to simultaneously communicate a plurality of (first and second) frequencies via a broadband nature of the antenna (Abstract); except specifying the claimed wherein the antenna being configured to simultaneously substantially tuned to the first and second different substantially resonant frequencies or bands.

While Marsh et al. teaches a known dual band RFID transponder system in which the transponder responds to the dual band frequencies simultaneously using a broadband antenna (Abstract), Johnson. et al. teaches a known multiple frequency band dipole antenna that can communicate multiple band tuned resonant frequencies simultaneously (Abstract; Figs. 4-7 & 9; col. 2, lines 31-42; col. 3, lines 45-62). In view of the teachings by Marsh et al. and Johnson et al., it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to employ a known dual band resonant frequency/band antenna such as taught by Johnson et al. in a system such as taught by Marsh et al. to differentiate the system's

communication signals from other systems', e.g. noise associated with the broadband antenna that is responsive to frequencies other than the 2 frequencies/band of interest.

2) Regarding claim 4, Marsh et al. and Johnson et al. render obvious all of the claimed subject matter as in claim 1, including: the claimed power source coupled with the communication circuitry (C, 34, Supply Voltage in Fig. 4 of Marsh et al.)

3) Regarding claim 5, Marsh et al. and Johnson et al. render obvious all of the claimed subject matter as in claim 1, including: the claimed wherein the antenna is configured to output the wireless signals, and further comprising another antenna coupled with the communication circuitry and configured to receive the wireless signals at a plurality of substantially resonant frequencies (separate transmitter and receiver antennas shown in Fig. 4 of Marsh et al.)

4) Regarding claim 6, Marsh et al. and Johnson et al. render obvious all of the claimed subject matter as in claim 5, including: the claimed wherein the another antenna is configured to communicate via backscatter modulation (backscatter communication in col. 5, lines 9-19 of Marsh et al. whereby a resonance parameter, e.g. impedance, is being variably controlled as well known in the art and compatible with the combined teachings of the prior art.)

5) Claim 38: Marsh et al. and Johnson et al. render obvious all of the claimed subject matter as in the consideration of claim 1, wherein:

The discrete frequency bands in Marsh et al. and Johnson et al. reads on the claimed limitation of wherein the antenna is not tuned to at least one frequency between the first and second different frequency bands.

6) Regarding claims 40-41, Marsh et al. and Johnson et al. render obvious all of the claimed subject matter as in claim 38, plus the consideration of claim 5.

7) Claims 42-43: Marsh et al. and Johnson et al. render obvious all of the claimed subject matter as in claim 38, including: the claimed processing wireless signals using the remote communication device and said providing comprises providing an RFID device (Figs. 1-4 of Marsh et al.).

8) Regarding claims 50-52, Marsh et al. and Johnson et al. render obvious the claimed subject matter as in the consideration of claim 1, plus see Abstract and disclosure corresponding to Figs. 1-4, col. 5, lines 9-19 regarding backscatter RFID device communication, and incorporated US pat. # 5,537,105: col. 3, lines 48-49 which indicated that the RFID device further could alternatively use a single or separate antennas, although the claim does not specify that there be ONLY one antenna).

9) Regarding claim 53, Marsh et al. and Johnson et al. render obvious the claimed subject matter as in claim 50, plus see Abstract and disclosure corresponding to Fig. 4 of Marsh et al., and incorporated reference US pat. #5,537,105 on col. 3, lines 4-49, in which the receiving and transmitting use the same antenna and carrier frequencies.

10) Regarding claim 62, Marsh et al. and Johnson et al. render obvious all of the claimed subject matter as in the consideration of claims 1 and 5, wherein:

--the claimed outputting a continuous wave signal… are met by the "backscatter" communication steps involved between the interrogator and the transponder.

11) Claim 73: Marsh et al. and Johnson et al. render obvious all of the claimed subject matter as in claim 1, wherein the different frequencies are used as carriers in Marsh et al.

12) Regarding 74, Marsh et al. and Johnson et al. render obvious all of the claimed subject matter as in claim 1, plus the consideration of claim 62 regarding the claimed wherein the

device antenna is configured to communicate at different substantially resonant frequencies corresponding to interrogation signals having different carrier frequencies, and see Figs. of Marsh et al. regarding interrogation of the RFID tag device.

13) Claim 79: Marsh et al. and Johnson et al. render obvious all of the claimed subject matter as in claim 38, plus the consideration of claims 1 and 73.

14) Claim 81: Marsh et al. and Johnson et al. render obvious all of the claimed subject matter as in claim 1, plus the consideration of claim 6.

15) Claim 82: Marsh et al. and Johnson et al. render obvious all of the claimed subject matter as in claim 4, wherein:

While Marsh et al. and Johnson et al. teaches a passively powered RFID device, it has been well known that an actively powered RFID device using onboard battery can increase communication range/reliability, so that it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include a battery as the source of power in such a device if increased communication range/reliability is at a higher design priority over the need of such onboard battery.

4. Clams 7, 11-12, 14-15, 17 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marsh et al. (incorporating US 5537105 Marsh et al. by reference) in view of Johnson et al. and Lebo (US 5900808)

1) Regarding claim 7, Marsh et al. and Johnson. et al. render obvious all of the claimed subject matter as in claim 5, wherein Lebo teaches the known use of quarter-wave transmission line/balun as an inexpensive and low loss way of connecting the dipole antenna output to the corresponding device circuitry (col. 7, lines 25-30). It would have been obvious to one of

ordinary skill in the art at the time of the claimed invention to include a quarter wave transmission line as taught by Lebo between the antenna and the circuitry as a connection means for improved antenna performance in Marsh et al. and Johnson et al.

2) Claim 11: Marsh et al., Johnson et al. and Lebo render obvious the claimed remote communication device as in the consideration of claims 1 and 7.

3) Claim 12: Marsh et al., Johnson et al. and Lebo render obvious the claimed remote communication device according to claim 11, including the claimed wherein the antenna is substantially tuned to the resonant frequencies (col. 2, lines 31-42 of Johnson et al.)

4) Regarding claim 14, Marsh et al., Johnson et al. and Lebo render obvious all of the claimed subject matter as in claim 11, including: the claimed wherein the antenna is configured to output the wireless signals, and further comprising another antenna coupled with the communication circuitry and configured to receive the wireless signals at a plurality of substantially resonant frequencies (separate transmitter and receiver antennas shown in Fig. 4 of Marsh et al.)

5) Regarding claim 15, Marsh et al., Johnson et al. and Lebo render obvious all of the claimed subject matter as in claim 14, including: the claimed wherein the another antenna is configured to communicate via backscatter modulation (backscatter communication in col. 5, lines 9-19 of Marsh et al. whereby a resonance parameter, e.g. impedance, is being variably controlled as well known in the art and compatible with the combined teachings of the prior art.)

6) Claim 17: Marsh et al., Johnson et al. and Lebo render obvious the claimed remote communication device according to claim 11, including the claimed RFID circuitry (Fig. 4 of Marsh et al.)

7) Regarding claims 26-27, Marsh et al., Johnson et al. and Lebo render obvious the claimed subject matter as in the consideration of claims 12 and 17.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marsh et al. (incorporating US 5537105 Marsh et al. by reference) in view of Johnson et al. and Lee et al. (US 4623894).

1) Regarding claim 2, Marsh et al., Johnson et al. and Lebo render obvious all of the claimed subject matter as in claim 1, while:

Lee et al. teaches the known implementation of a dipole antenna in the form of a microstrip dipole (Fig. 4).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the dipole antenna in Marsh et al. and Johnson et al. by a known microstrip design as taught by Lee et al. for an overall device low profile effect.

6. Claims 3 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marsh et al. (incorporating US 5537105 Marsh et al. by reference) in view of Johnson et al. and Murakami.

1) Regarding claim 3, Marsh et al. and Johnson et al. render obvious all of the claimed subject matter as in claim 1, except: the claimed wherein the antenna is configured to electromagnetically communicate with a return loss of less than or equal to approximately -9 dB at the first and second frequencies.

While Marsh et al. and Johnson et la. teaches a transponder conducting backscattering communication using multiple antenna resonant frequencies using a dipole antenna, Murakami discloses using an antenna (microstrip/patch antenna according to Figs. 1a-1b) having multiple

resonant frequencies (f1, f2, f3) with corresponding return losses of about –10dB, -15 dB, -10 dB, respectively (Fig. 6); which meets the claimed limitation.

In view of the teachings of Marsh et al., Johnson et al. and Murakami, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the antenna in Marsh et al. and Johnson et al. to have a low return loss characteristic such as taught by Murakami, since low return loss is generally desired for an antenna in a communication device for optimal signal, range, or power considerations, especially for a low/limited power type transponder such as taught by Marsh et al. and Johnson et al.

2) Claim 39: Marsh et al. and Johnson et al. render obvious all of the claimed subject matter as in claim 38, plus the consideration of claim 3 further in view of Murakami.

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marsh et al. (incorporating US 5537105 Marsh et al. by reference) in view of Johnson et al., Lebo and Murakami.

1) Regarding claim 13, Marsh et al., Johnson et al. and Lebo render obvious all of the claimed subject matter as in claim 11, plus the consideration of claim 3 further in view of Murakami.

8. Claims 9-10, 18-21, 26-30, 57-61, 75, 77, 83-84 and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marsh et al. (incorporating US 5537105 Marsh et al. by reference) and Johnson et al. as in claim 1, further in view of Kodulkala et al. (US pat. 6,215,402).

1) Regarding claim 9, Marsh et al. and Johnson et al. render obvious all of the claimed subject matter as in claim 1, including:

--specifying the claimed wherein the frequency bands are centered at approximately 915 MHz. and 2.45 GHz. (col. 2, lines 31-42 of Johnson et al.)

While Marsh et al. teaches the use of wideband RFID devices and Johnson et al. teaches the known use of multiband dipole antenna having the claimed frequency bands without specifying the known use of such bands in RFID, Kodulkala et al. discloses that 915 MHz. and 2.45 GHz. are two of the frequencies conventionally known and used for RFID communication (col. 5, lines 40-67). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to choose the frequency bands in Marsh et al. and Johnson et al. so that they are centered at approximately 915 MHz and 2.45 GHz. since these are frequencies used in known RFID protocols.

2) Regarding claim 10, Marsh et al. and Johnson et al. render obvious all of the claimed subject matter as in claim 1, except:

--specifying the claimed wherein the antenna includes an impedance reduction conductor.

However, Kodulkala et al. teaches the known use of an impedance matching method for an antenna in RFID communication using an impedance matching (including reduction) conductor (Fig. 2A and col. 5, line 40 and col. 6, line 55). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include an in impedance reduction conductor in the antenna as taught by Kodulkala et al. in a transponder as taught by Marsh et al. and Johnson et al. to match the impedance for improved performance of the RFID communications.

3) Regarding claim 18, Marsh et al. and Johnson et al. and Kodulkala et al. render obvious all of the claimed subject matter as the consideration of claims 1 and 9.

4) Regarding claim 19, Marsh et al., Johnson and Kodulkala et al. render obvious all of the claimed subject matter as in claim 18, including:

--the claimed wherein the antenna is configured to output the wireless signals, and further comprising another antenna coupled with the communication circuitry and configured to receive the wireless signals at a plurality of substantially resonant frequencies (separate transmitter and receiver antennas shown in Fig. 4 of Marsh et al.)

5) Regarding claim 20, Marsh et al., Johnson and Kodulkala et al. render obvious all of the claimed subject matter as in claim 10, including: the claimed wherein the another antenna is configured to communicate via backscatter modulation (backscatter communication in col. 5, lines 9-19 of Marsh et al. whereby a resonance parameter, e.g. impedance, is being variably controlled as well known in the art and compatible with the combined teachings of the prior art.)

6) Regarding claim 21, Marsh et al. and Johnson et al. and Kodulkala et al. render obvious all of the claimed subject matter as claim 18, plus the consideration of 10.

7) Regarding claim 26, Marsh et al., Johnson et al. and Kodulkala et al. render obvious all of the claimed subject matter as in the consideration of claims 1 and 10.

8) Regarding claim 27, Marsh et al., Johnson et al. and Kodulkala et al. render obvious all of the claimed subject matter as in claim 26, including: the claimed wherein the antenna is configured to communicate at the one frequency responsive to a frequency of communication of the interrogator (see Marsh et al.)

9) Regarding claim 28, Marsh et al., Johnson et al. and Kodulkala et al. render obvious all of the claimed subject matter as in claim 26, including:

--the claimed wherein the antenna is configured to receive the forward signals, and further comprising another antenna coupled with the communication circuitry and configured to output the return signals at one of a plurality of frequencies (separate transmitter and receiver antennas shown in Fig. 4 of Marsh et al.)

10) Regarding claim 29, Marsh et al., Johnson et al. and Kodulkala et al. render obvious all of the claimed subject matter as in claim 28, including: the claimed wherein the another antenna is configured to communicate via backscatter modulation (backscatter communication in col. 5, lines 9-19 of Marsh et al. whereby a resonance parameter, e.g. impedance, is being variably controlled as well known in the art and compatible with the combined teachings of the prior art.)

11) Regarding claim 30, Marsh et al., Johnson and Kodulkala et al. render obvious all of the claimed subject matter as in claim 26, wherein: since Kodulkala et al. teaches the known use of an impedance matching method for an antenna in RFID communication using an impedance matching (including reduction) conductor (Fig. 2A and col. 5, line 40 and col. 6, line 55) so that the impedance are matched between the antenna components and the circuitry in the combined teaching of Marsh et al., Johnson et al. and Kodulkala et al., it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that such included impedance reduction conductor between antenna components and the RFID device circuitry taught by Marsh et al., Johnson and Kodulkala et al. acts to tune the antenna to one of the frequencies since frequency tuning is affected by impedance and impedance matching.

12) Regarding claims 57 and 61, Marsh et al., Johnson and Kodulkala et al. render obvious all of the claimed subject matter as in the consideration of claim 1 and 10.

13) Regarding claim 58, Marsh et al., Johnson and Kodulkala et al. render obvious all of the claimed subject matter as in claim 57, plus the consideration of claim 4.

14) Regarding claim 59, Marsh et al., Johnson and Kodulkala et al. render obvious all of the claimed subject matter as in claim 57, plus the consideration of claim 8.

15) Regarding claim 60, Marsh et al., Johnson and Kodulkala et al. render obvious all of the claimed subject matter as in claim 57, plus receive and transmit antennas in Fig. 2A of Marsh et al.

16) Claim 75: Marsh et al., Johnson et al. and Kodulkala et al. render obvious all of the claimed subject matter as in claim 18, wherein the different frequencies are used as carriers in Marsh et al.

17) Claim 77: Marsh et al., Johnson et al. and Kodulkala et al. render obvious all of the claimed subject matter as in claim 26, wherein the different frequencies are used as carriers in Marsh et al.

18) Claim 83: Marsh et al., Johnson et al. and Kodulkala et al. render obvious all of the claimed subject matter as in claim 10, plus the consideration of claim 30.

19) Claim 84: Marsh et al., Johnson et al. and Kodulkala et al. render obvious all of the claimed subject matter as in claim 83 (note that the claim does not require that the impedance reduction conductor is coupled with ONLY one half of the dipole antenna), wherein it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that the concept of impedance matching/reduction via a conductor connected to the antenna element in Marsh et al., Johnson et al. and Kodulkala et al. is applicable to dipole antennas used with RFID

tags as well, by coupling the impedance reduction conductor with the dipole antenna including one half of the dipole antenna.

20) Claim 86: Marsh et al., Johnson et al. and Kodulkala et al. render obvious all of the claimed subject matter as in claim 10, plus the consideration of claim 84, wherein:

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention that since both of the dipole halves are connected to the RFID communication circuitry, impedance matching would have involved both dipole halves, so that only one half of the dipole antenna includes the impedance reduction conductor while the other half of the dipole antenna includes a corresponding, separate impedance reduction conductor in a device such as taught by Marsh et al., Johnson et al. and Kodulkala et al.

9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marsh et al. (incorporating US 5537105 Marsh et al. by reference), Johnson et al. and Lebo as in claim 11, further in view of Kodulkala et al.

1) Regarding claim 16, Marsh et al., Johnson et al. and Lebo render obvious all of the claimed subject matter as in claim 11, plus the consideration of claim 16 in view of Kodulkala et al.

10. Claim 72 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marsh et al. (incorporating US 5537105 Marsh et al. by reference) in view of Johnson et al. and Kodulkala et al., and further in view of Cook et al. (US pat. 5,320,561).

1) Regarding claim 72, Marsh et al., Johnson et al. and Kodulkala et al. render obvious all of the claimed subject matter as in claim 57, plus the consideration of claim 82, while:

Cook et al. teaches the known loading/tuning effect of a battery on a nearby antenna and the need for taking such effect into account when regarding antenna parameters (col. 1, lines 52-55; col. 4, line 57 to col. 5, line 14).

In view of their teachings, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to take into account the tuning/loading effect of the battery on the nearby antenna (co-located on a small area of the transponder) when providing the intended frequencies/bands in such design in Marsh et al., Johnson et al. and Kodulkala et al., since such tuning/loading effect has been known in the art as taught by Cook et al.

11. Claim 64 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marsh et al. (incorporating US 5537105 Marsh et al. by reference) and Johnson et al., and further in view of Moskowitz et al. (US pat. #5,528,222).

1) Regarding claim 64, Marsh et al. and Johnson et al. render obvious all of the claimed subject matter as in claim 4, plus the consideration of claim 82, while:

Moskowitz et al. teaches the known placement of a battery in the center of the loop antenna for efficient packaging (Fig. 8); and

In view of these teachings, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the resonant type transponder having separate receiving and transmitting antennas of Marsh et al. and Johnson et al. using a known loop antenna in addition to the dipole antenna, and furthermore to center the power source/battery with respect to the loop antenna as a matter of structural layout design for improved packaging as taught by Moskowitz et al., since the center of the loop antenna is space available for other components including the power source.

Allowable Subject Matter

12. Claims 22-25, 31-37, 54-56, 67, 76, 78 and 85 are allowed.

13. Claims 63, 65-66 and 68-69 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. Claim 44 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

15. Claims 45-49 and 80 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Reasons For Allowance

16. The following is a statement of reasons for the indication of allowable subject matter:

In a wireless device having an antenna for communicating a plurality of frequencies/bands in the manner claimed, the claimed use of a battery/power source to tune ONE of the plurality of frequencies/bands, or additionally tune antenna's OTHER of the plurality of frequencies/bands with an impedance reduction conductor, is not sufficiently taught in the prior art that includes the general teaching of tuning a device antenna taking the battery's influence into account (Cook et al., US pat. 5320561).

Response To Arguments

17. Applicant's arguments filed 10/31/07 have been fully considered but they are not persuasive in view of new grounds of rejection.

1) See the above new grounds of rejection using additional new prior art references.

2) Plural frequencies/bands dipole antenna has now been met by Johnson et al.

3) Moskowitz et al. in Fig. 8 shows antenna 815 that is an open loop configuration having battery 820 inside the loop, so that one skilled in the art would interpret/know that such configuration takes less total surface area than if the battery were to be placed on another surface outside of the antenna loop.

4) Arguments regarding the claims having indicated allowable subject matter are moot.

5) See above rejection for detail of how and why each claim and corresponding claim limitations are rendered obvious by the prior art singularly or in combination.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1) Other known dipole, or dipole/coil combination antennas with multiple frequencies/bands: US patents 5867131, 5923298, 5182570, 6611691.

2) Other known use of quarter wave impedance matching conductors: 5182570, 6611691.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin C. Lee whose telephone number is (571) 272-2963. The examiner can normally be reached on Mon -Thu 9:30Am-6:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Benjamin C. Lee
Primary Examiner
Art Unit 2612

B.L.